resistive film arranged on an upper surface of said glass substrate, and second dot spacers arranged with an equal interval between said third and fourth transparent resistive films, said third transparent resistive film opposing said fourth transparent resistive film.

[0036] In accordance with the present invention, the first dot spacers are arranged with an interval wider than that of said second dot spacers.

[0037] In accordance with the present invention, the device further includes a touch panel controller for controlling said first and second touch panels. The controller includes determining means for determining, according to a contact state between said first and second transparent resistive films of said first touch panel and a contact state between said third and fourth transparent resistive films of said second touch panel, that an input operation is conducted by a fingertip or a pen.

[0038] In accordance with the present invention, the determining means determines, when said first and second transparent resistive films is in a contact state and said third and fourth transparent resistive films is in a non-contact state, that the input operation is conducted by a fingertip. The determining means determines, when said first and second transparent resistive films is in a contact state and said third and fourth transparent resistive films is in a contact state, that the input operation is conducted by a pen.

[0039] In accordance with the present invention, there is provided a touch panel input device which has structure including two touch panels attached onto each other to thereby enhance good usability as a touch panel for a finger and as a touch panel for a pen.

BRIEF DESCRIPTION OF THE DRAWINGS

[0040] The objects and features of the present invention will become more apparent from the consideration of the following detailed description taken in conjunction with the accompanying drawings in which:

[0041] **FIG. 1** is a cross-sectional view showing structure of a touch panel of transparent resistive film type of the prior art;

[0042] **FIG. 2** is a cross-sectional view showing a situation in which a touch panel of **FIG. 1** is pressed by a pen or a fingertip;

[0043] **FIG. 3** is a diagram showing a circuit configuration of an input coordinate position sensor in the touch panel of transparent resistive film type of the prior art;

[0044] **FIG. 4** is a first configuration diagram showing a state of the input coordinate position sensor in the state of **FIG. 2**;

[0045] **FIG. 5** is a second configuration diagram showing a state of the input coordinate position sensor in the state of **FIG. 2**;

[0046] **FIGS. 6A and 6B** are cross-sectional views showing prior-art embodiments of a touch panel using transparent resistive films;

[0047] **FIG. 7** is a cross-sectional view showing an outline of constitution of first and second embodiments of a touch panel input device in accordance with the present invention;

[0048] **FIG. 8** is a block diagram schematically showing structure of an embodiment of a touch panel input device in accordance with the present invention;

[0049] **FIG. 9** is a circuit diagram showing a detailed configuration of an embodiment of a touch panel controller in accordance with the present invention;

[0050] **FIG. 10** is a plan view showing a display example of an embodiment of a display section in accordance with the present invention;

[0051] **FIG. 11** is a cross-sectional view showing a state in which a touch panel is depressed by a finger in an embodiment in accordance with the present invention;

[0052] **FIG. 12** is a cross-sectional view showing a situation in which a touch panel is depressed by a pen in an embodiment in accordance with the present invention;

[0053] **FIG. 13** is a cross-sectional view showing a state in which a finger touches a touch panel in a pen input mode in an embodiment in accordance with the present invention;

[0054] **FIG. 14** is a plan view showing a display example in which a virtual keyboard is displayed on a display section of an embodiment in accordance with the present invention;

[0055] **FIG. 15** is a plan view showing a display example in which the virtual keyboard of **FIG. 14** is subdivided into four partitions;

[0056] **FIG. 16** is a plan view showing a magnified view of one of the four partitions of the virtual keyboard of **FIG. 15**;

[0057] **FIG. 17** is a plan view showing a case in which an image is drawn by hand in an embodiment of a touch panel in accordance with the present invention;

[0058] **FIG. 18** is a plan view showing a case in which the image inputted by hand is erased in an embodiment of a touch panel in accordance with the present invention; and

[0059] **FIG. 19** is a cross-sectional view showing an outline of structure of a third embodiment of a touch panel input device in accordance with the present invention.

DESCRIPTION OF THE EMBODIMENTS

[0060] Referring to the accompanying drawings, description will be given in detail of an embodiment of a touch panel input device in accordance with the present invention. FIGS. **7** to **19** show embodiments of a touch panel input devices in accordance with the present invention.

[0061] First embodiment

[0062] **FIG. 7** shows in a cross-sectional view and outline of constitution of a first embodiment of a touch panel input device in accordance with the present invention. Shown in **FIG. 7, a** first embodiment of a touch panel input device **100** primarily includes two layers, namely, a first touch panel is layer A and a second touch panel is layer B.

[0063] Layer A disposed on an upper side in **FIG. 7** includes, in a downward direction, a first transparent film **11**, a first transparent resistive film **12**, a second transparent resistive film **13**, a second transparent film **14**, and first dot spacers **15**.